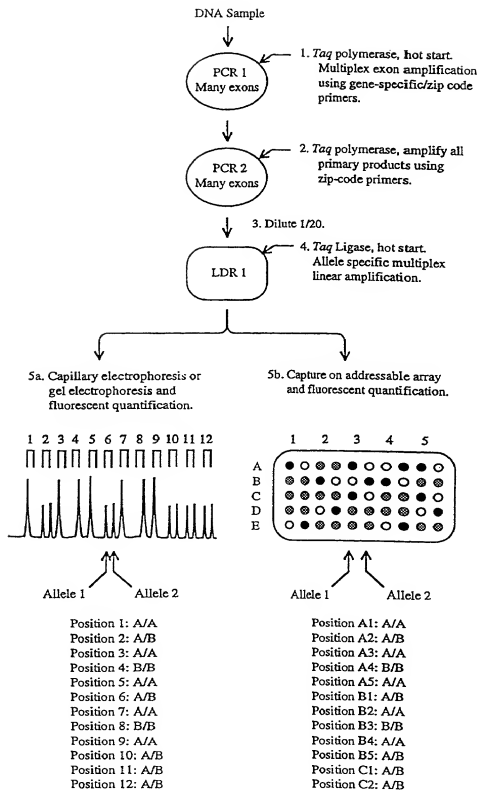
**FIG. 1**

**FIG. 2**

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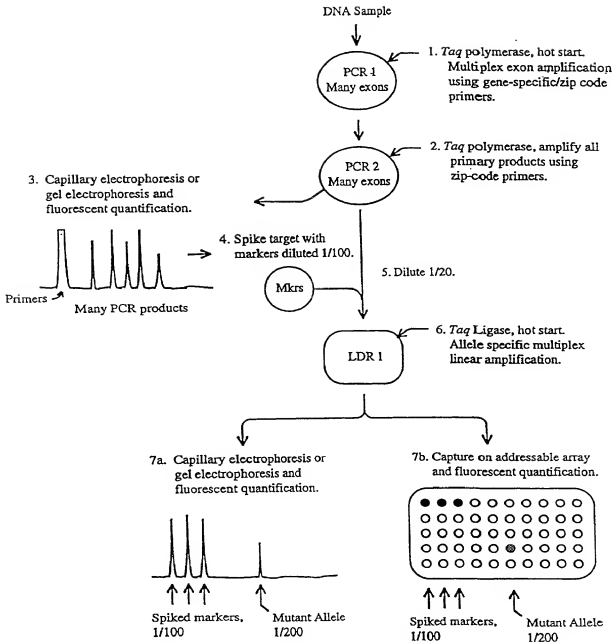


FIG. 3

PCR/ PCR/ LDR

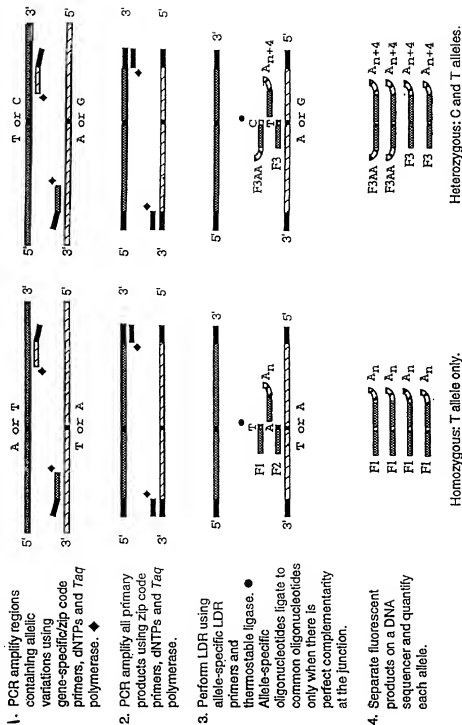


FIG. 4

PCR/ PCR/ LDR

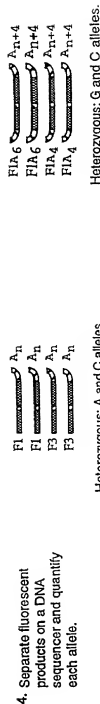
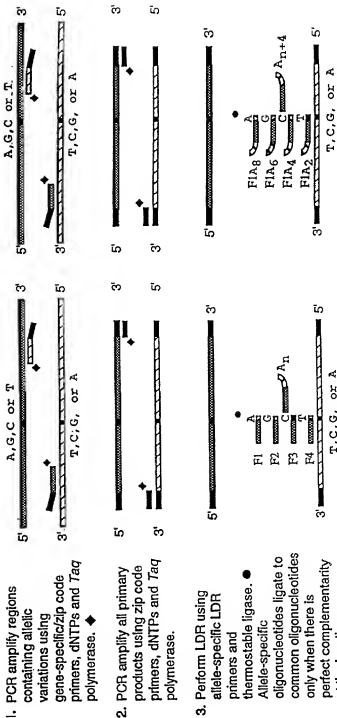


FIG. 5

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PCR/PCR/LDR : Nearby alleles

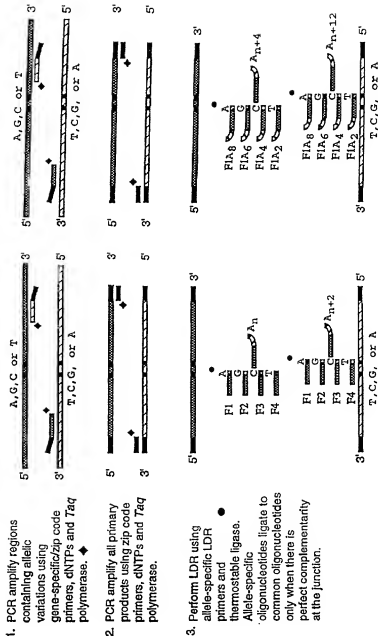
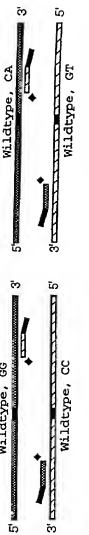



FIG. 6

1st Position.
Heterozygous: G and C alleles.
2nd Position.
Heterozygous: A and T alleles.

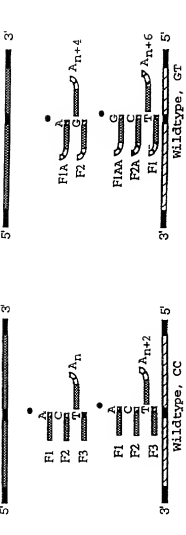
PCR/ PCR/ LDR : Adjacent alleles, cancer detection

1. PCR amplify regions containing allelic variations using gene-specific/zip code primers, dNTPs and Taq polymerase. ♦


2. PCR amplify all primary products using zip code primers, dNTPs and Taq polymerase. ♦


3. Perform LDR using allele-specific LDR primers and thermostable ligase. ♦

Allele-specific oligonucleotides ligate to common oligonucleotides only when there is perfect complementarity at the junction.


4. Separate fluorescent products on a DNA sequencer and quantify each allele.




FIG. 7

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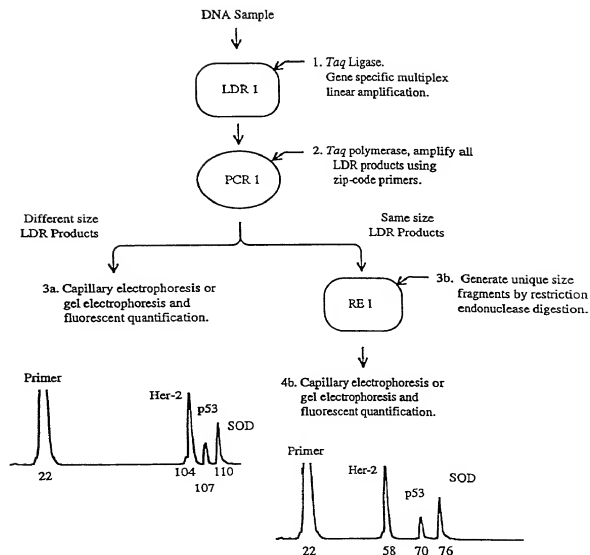


FIG. 8

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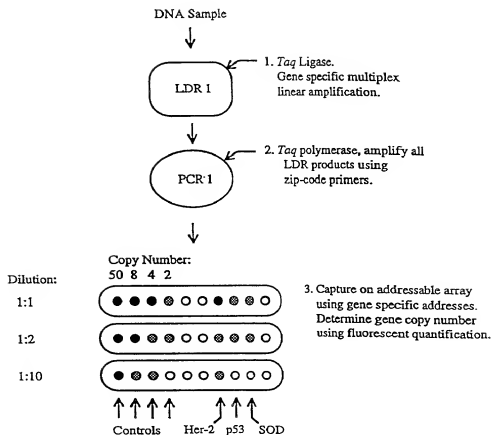


FIG. 9

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LDR / PCR: Multiplex detection of gene amplifications and deletions

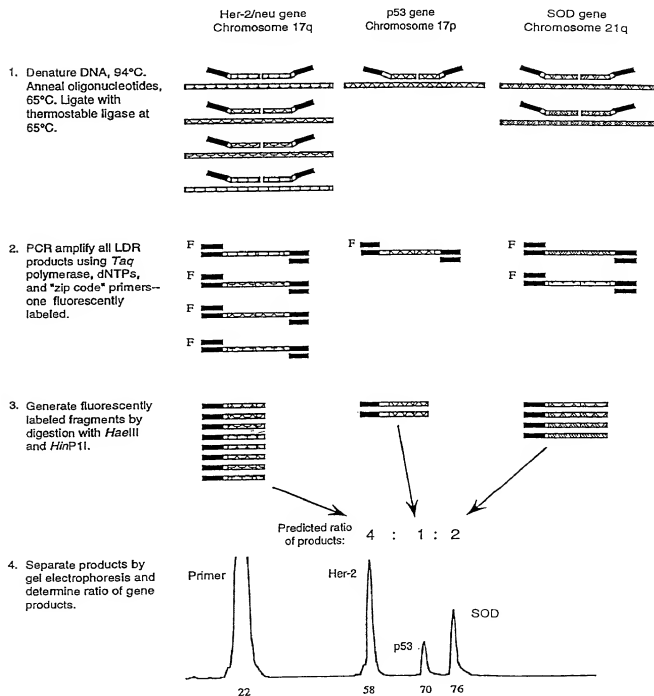


FIG. 10

Allele specific LDR / PCR Problem

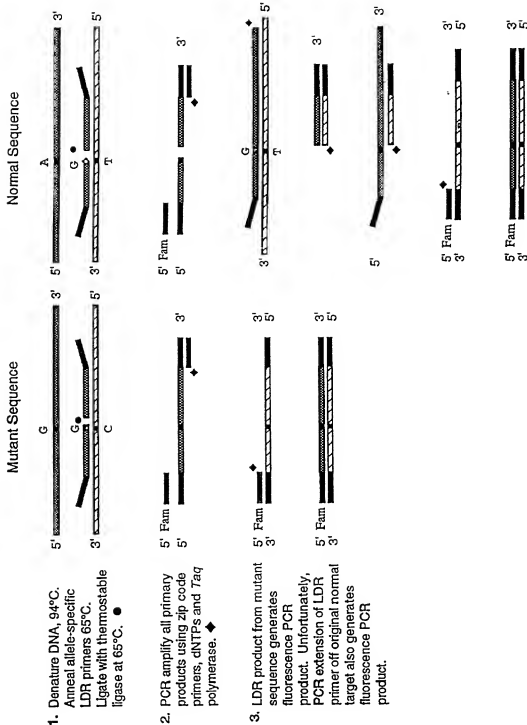


FIG. 11

Solution to allele specific LDR / PCR problem

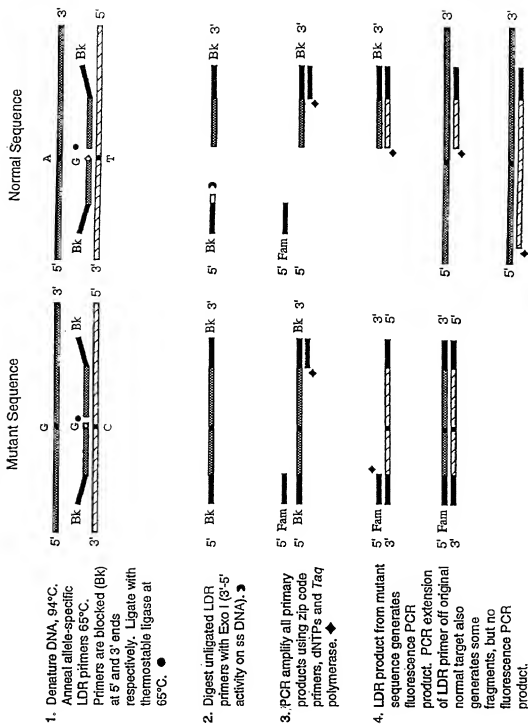


FIG. 12

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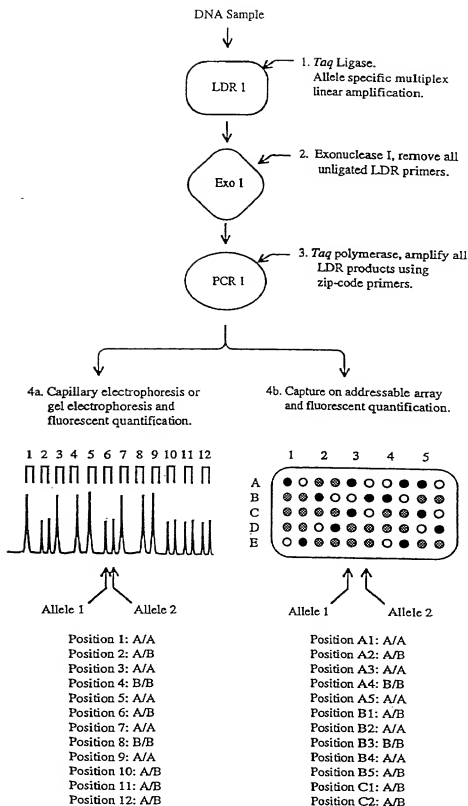


FIG. 13

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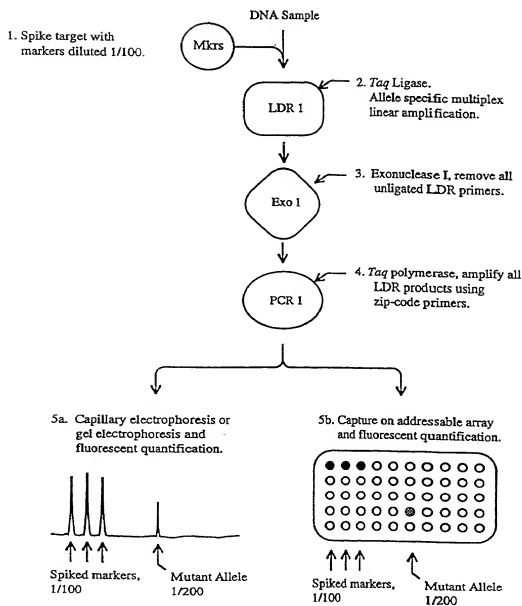


FIG. 14

Allele specific LDR / PCR for mutations or polymorphisms

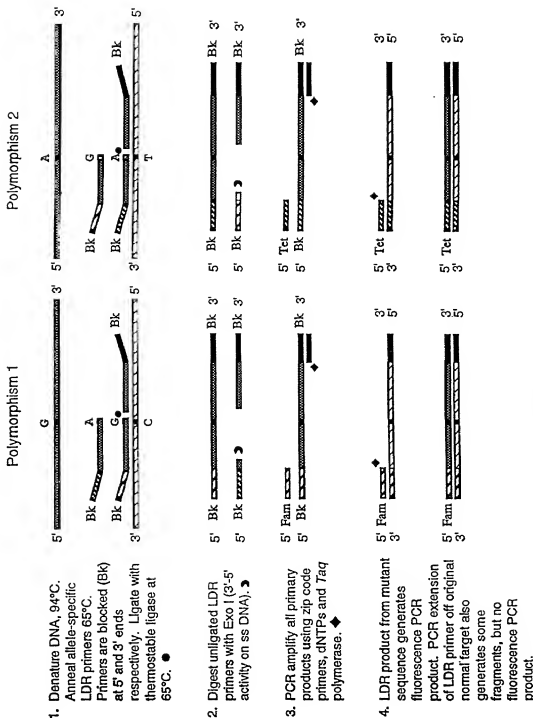


FIG. 15

LDR / PCR of mononucleotide repeats using exonuclease selection

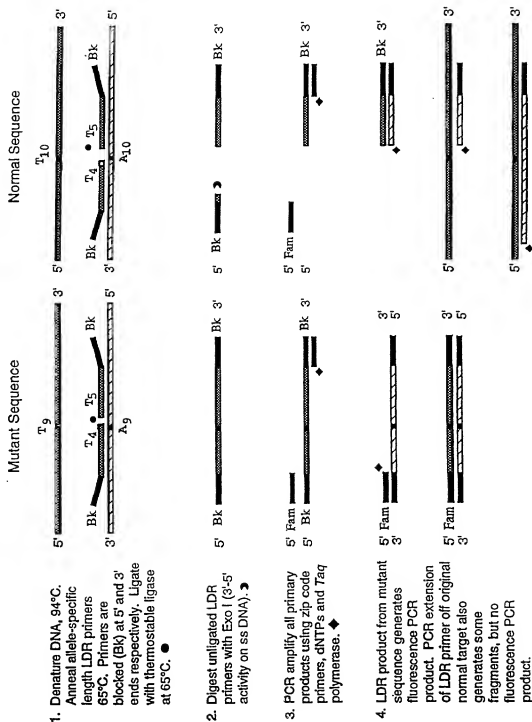
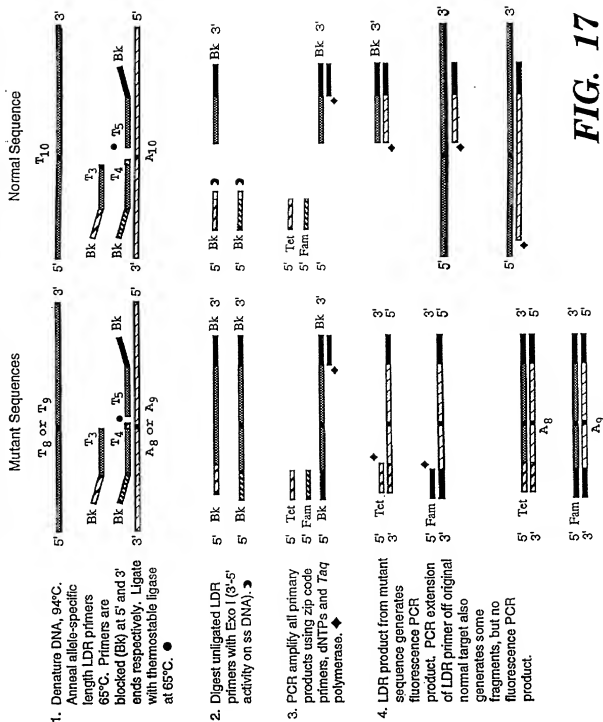


FIG. 16

LDR / PCR of mononucleotide repeat polymorphisms using exonuclease selection



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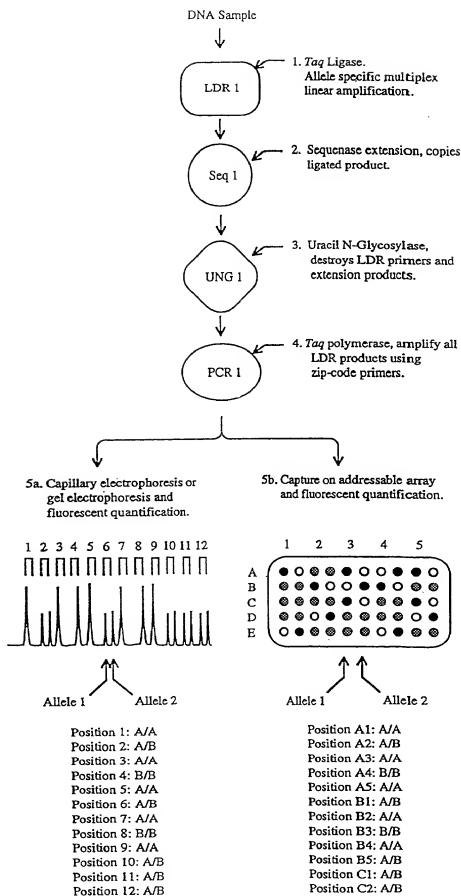


FIG. 18

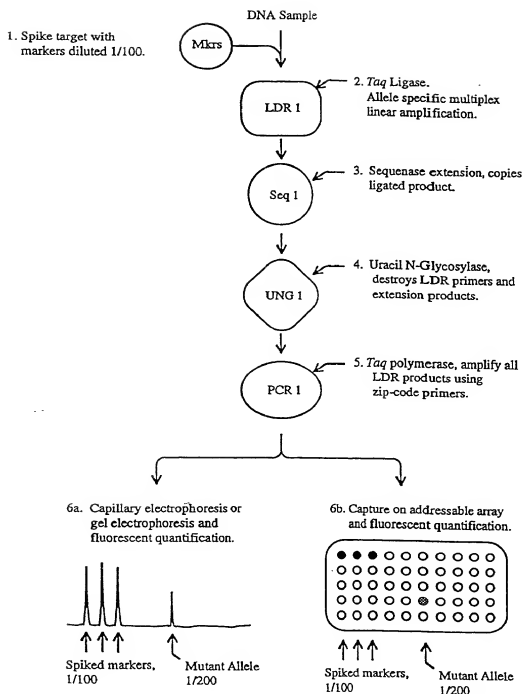


FIG. 19

LDR / PCR of mononucleotide repeats using Uracil N-glycosylase selection

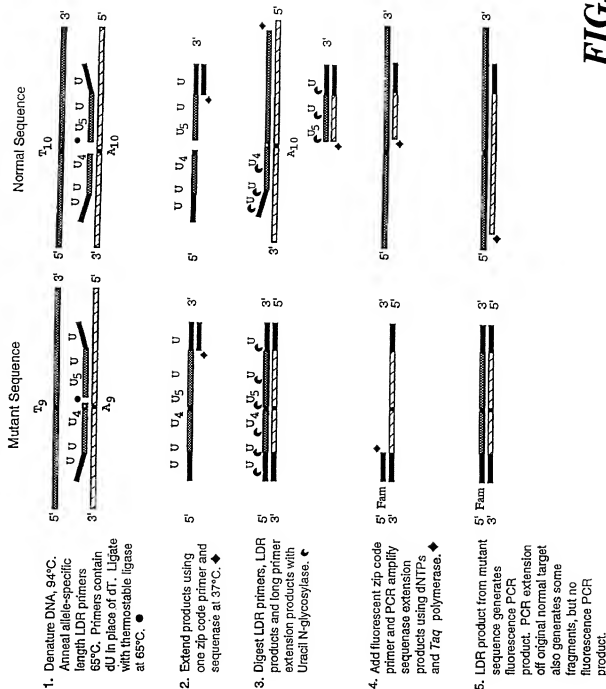


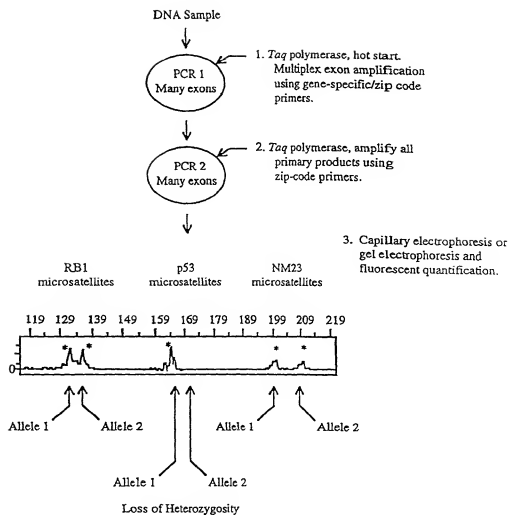
FIG. 20

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5. LDR product from mutant sequence generates fluorescence PCR product. PCR extension off original normal target also generates some fragments, but no fluorescence PCR product.



FIG. 21

**FIG. 22**

PCR / PCR : Multiplex Microsatellite assays

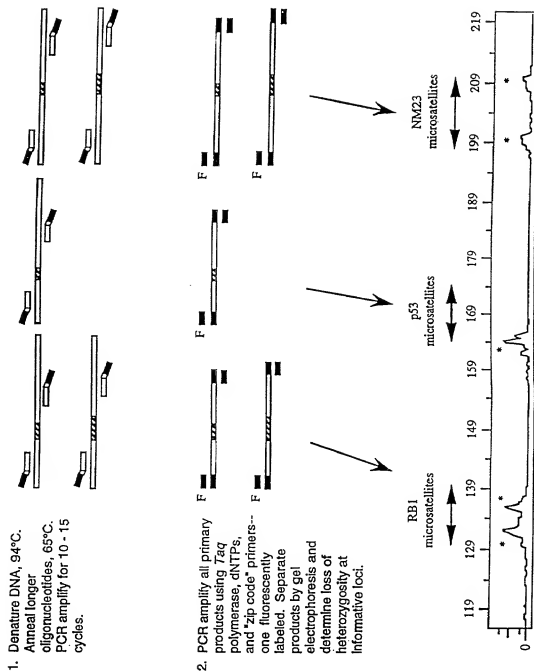


FIG. 23

[illegible]

FIG. 24

FIG. 25A

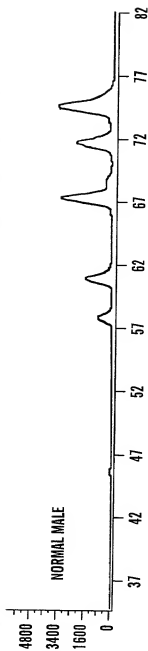


FIG. 25B

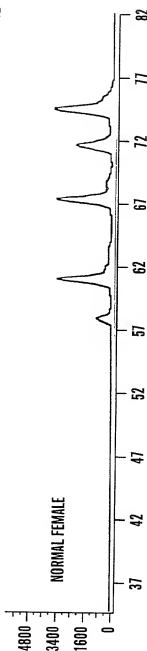


FIG. 25C

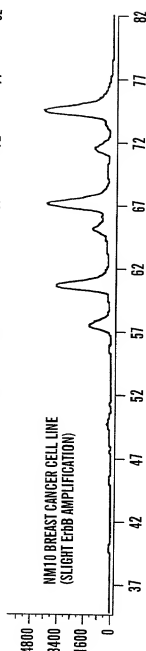


FIG. 25D

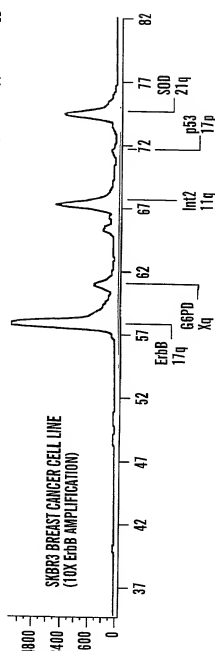


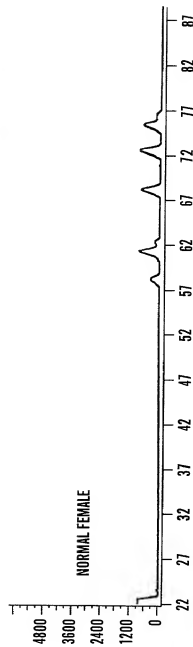
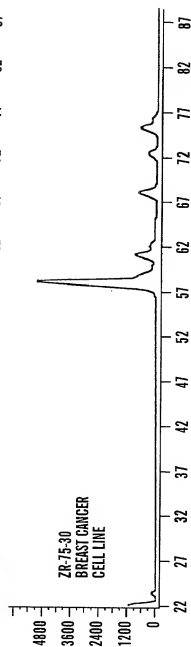
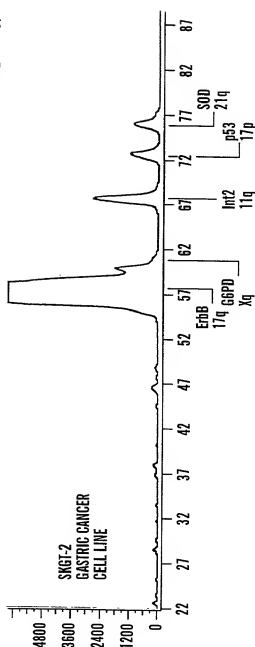
FIG. 26A**FIG. 26B****FIG. 26C**

FIG. 27A

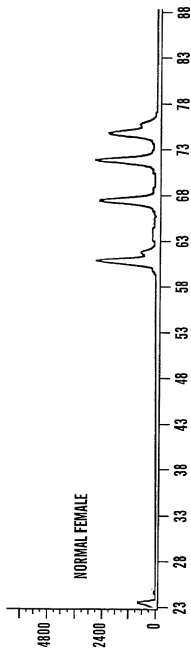


FIG. 27B

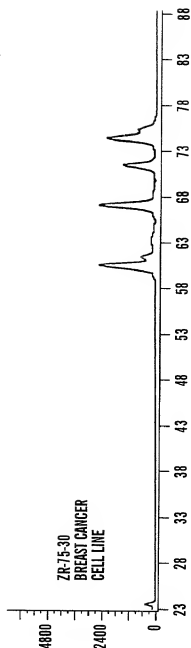
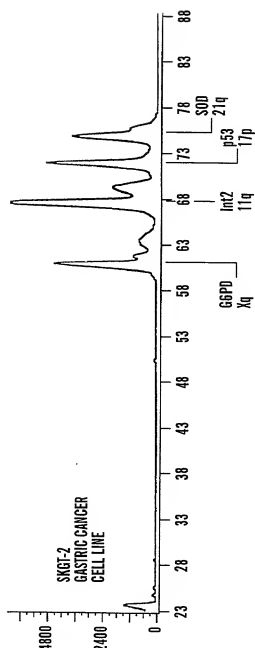


FIG. 27C



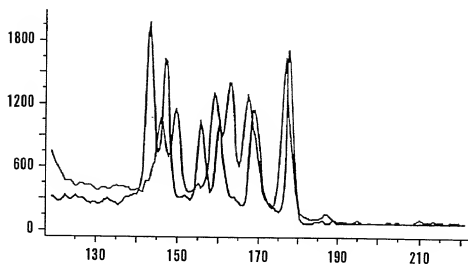


FIG. 28A

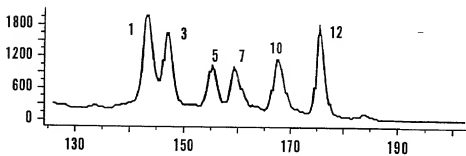


FIG. 28B

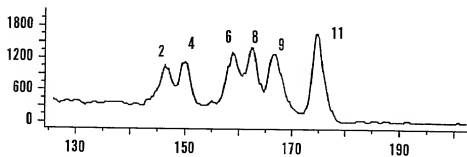


FIG. 28C

